



## BIOLOGICAL SOCIETY OF WASHINGTON

### A NEW MARSUPIAL OF THE GENUS ANTECHINUS FROM NORTHERN AUSTRALIA

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Discovery of the small dasyurid mammal described below is one of the scientific results of the Arnhem Land Expedition of 1948, which was sponsored jointly by the Commonwealth of Australia, the National Geographic Society, and the Smithsonian Institution.

#### *Antechinus bilarni*, new species

*Type specimen*.—U. S. National Museum No. 283970, adult female, skin and skull; collected October 29, 1948, by D. H. Johnson; original no. 5919.

*Type locality*.—Oenpelli, East Alligator River, Northern Territory, Australia (latitude 12° 20' S., longitude 133° 3' E.).

*Diagnosis*.—A medium-sized *Antechinus* resembling *A. melanura* in general, but differing from that species in smaller body size, paler color, larger ears, more flattened skull, and larger alisphenoid bullae. Differing from *A. flavipes* in these same characters and also in longer and more penicillate tail, larger fourth premolars, and the presence of buffy patches behind the ears.

*Description of type specimen*.—Tail slightly longer than head and body (103 per cent), not incrassated; pinna of ear large and leaflike, extending 10 mm. beyond fur on dried skin; feet relatively slender, palmar and plantar pads striated. Color of fur on upper parts slightly grizzled Hair Brown (capitalized color terms are from Ridgway 1912); small patch behind each ear Cinnamon; underparts dull whitish with plumbeous bases of hairs showing through; line of demarcation between dorsal and ventral coloration obscure; cheeks pale; face without striped pattern; outer sides of legs dark; inner sides of legs and fore and hind feet whitish; tail not striped, colored almost like upper part of body, but bearing short whitish hairs basally and longer dark hairs terminally. Skull with narrow rostrum and shallow, flat-topped braincase; orbito-temporal fossa large; frontals lacking postorbital processes and inter-temporal constriction; anterior palatine foramina constricted and parallel-sided; palatal vacuities small, situated opposite posterior part of M<sup>2</sup>, and each occupying an area about equal to occlusal surface of that tooth; alisphenoid part of auditory bulla large, appearing almost spherical, greatest diameter equal to nearly 14 per cent of condylobasal length. Crown of Pm<sup>4</sup> projecting slightly farther from alveolus than that of Pm<sup>3</sup>, but its anteroposterior diameter notably less; Pm<sub>4</sub> minute, barely reaching to cingulum of Pm<sub>3</sub> and having about one-third the anteroposterior diameter of that tooth; first upper incisors slender and weak;

second, third and fourth upper incisors subequal, without apparent gradation in size.

*Measurements of type specimen.*—Head and body 106 mm.; tail 109; hind foot (with claw) 19; ear (from notch) 20; condylobasal length of skull 27.2; palatal length 14.6; zygomatic breadth 16.1; depth of braincase 7.0; interorbital breadth 5.7; length of nasals 10.7; breadth of combined nasals 3.8; diameter of alisphenoid bulla 3.8; length of upper tooth row (C-M<sup>4</sup>) 10.4.

*Habitat.*—The type specimen was trapped in a well shaded and relatively cool situation at the base of a cliff on the northeastern side of Inyalark Hill, a small outlier of the rocky tableland of central Arnhem Land. For photographs of this hill and the surrounding area see Mountford (1949, pp. 763, 768, and 777).

*Remarks.*—The position of *Antechinus bilarni* with relation to other members of the genus, which is here considered to be relatively inclusive, is uncertain. None of the described forms is similar enough to be considered conspecific. The general resemblance to *Antechinus melanura* of New Guinea suggests ancient relationship of these two species, but the enlarged bullae and flattened skull of *bilarni* are too divergent to allow this form to be included among the subspecies of *melanura*. The notable flattening of the skull suggests relationship with the species that have been segregated under the genus *Planigale* (see Tate, 1947, pp. 133-135), but all those species are quite small in comparison with *bilarni*. The reduced condition of the last lower premolar is also considered by Tate to be characteristic of *Planigale*, but among specimens available to me, an equal reduction is present in *Antechinus maculatus sinualis* in which there is no flattening of the braincase. It seems that if the genus *Planigale* were to be extended to include all the flat-skulled species related to *Antechinus*, the genus would be so diverse that little reason would remain for maintaining it.

*Antechinus bilarni* is known only from the type specimen. Possibly the specimen from Port Essington recorded by Thomas (1888, p. 291) and another from Daly River recorded by Collett (1897, p. 334) as "*Phascogale flavipes leucogaster*" belong to the same species. The form *leucogaster* was originally described from the southwestern part of Western Australia. As described by Waterhouse (1846, pp. 417-418) and illustrated by Gould (1854, pl. 38), *leucogaster* is larger-bodied, shorter-eared, shorter-tailed, and more reddish brown than *bilarni*. The underparts appear to be nearly the same whitish color in both forms. The range of *leucogaster* in Western Australia, which according to Shortridge (1910, pp. 838-839) is narrowly restricted, is separated from Arnhem Land by approximately 1500 miles of arid desert that is apparently unsuitable for these animals. Another pale-bellied specimen of the *Antechinus flavipes* group has been recorded from Coomooboolaroo Station in the Dawson River Valley of central eastern Queensland (Collett, 1887, pp. 860-861; Thomas, 1888, p. 290, footnote).

As a tribute to an indispensable guide and the best of camp companions, this new species is given the name by which William E. Harney of Darwin, Australia, is known among the aborigines of Arnhem Land. Comparison with specimens of *Antechinus melanura* in the Archbold Collections at the American Museum of Natural History has been made possible through the courtesy of Dr. G. H. H. Tate.

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